

36. Yoon, J. C.; Chickering, T. W.; Rosen, E. D.; Dussault, B.; Qin, Y.; Soukas, A.; Friedman, J. M.; Holmes, W. E.; Spiegelman, B. M. : Peroxisome proliferator-activated receptor gamma target gene encoding a novel angiopoietin-related protein associated with adipose differentiation. *Molec. Cell. Biol.* 20: 5343-5349, 2000. PubMed ID : 10866690

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**WHAT IS CLAIMED IS:**

1. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

10 (a) a mature form of an amino acid sequence selected from the group consisting of SEQ ID NO:2, 4, 6, 8, 10, 12, 14, 16, 18, 41, 43, 45, 47, 49, 51, 53, 55 and 57;

15 (b) a variant of a mature form of an amino acid sequence selected from the group consisting of SEQ ID NO:2, 4, 6, 8, 10, 12, 14, 16, 18, 41, 43, 45, 47, 49, 51, 53, 55 and 57 wherein one or more amino acid residues in said variant differs from the amino acid sequence of said mature form, provided that said variant differs in no more than 15% of the amino acid residues from the amino acid sequence of said mature form;

(c) an amino acid sequence selected from the group consisting of SEQ ID NO:2, 4, 6, 8, 10, 12, 14, 16, 18, 41, 43, 45, 47, 49, 51, 53, 55 and 57; and

20 (d) a variant of an amino acid sequence selected from the group consisting of SEQ ID NO:2, 4, 6, 8, 10, 12, 14, 16, 18, 41, 43, 45, 47, 49, 51, 53, 55 and 57 wherein one or more amino acid residues in said variant differs from the amino acid sequence of said mature form, provided that said variant differs in no more than 15% of amino acid residues from said amino acid sequence.

25 2 The polypeptide of claim 1, wherein said polypeptide comprises the amino acid sequence of a naturally-occurring allelic variant of an amino acid sequence selected from the group consisting of SEQ ID NO:2, 4, 6, 8, 10, 12, 14, 16, 18, 41, 43, 45, 47, 49, 51, 53, 55 and 57.

30 3. The polypeptide of claim 2, wherein said allelic variant comprises an amino acid sequence that is the translation of a nucleic acid sequence differing by a single nucleotide from a nucleic acid sequence selected from the group consisting of SEQ ID NO:1, 3, 5, 7, 9, 11, 13, 15, 17, 40, 42, 44, 46, 48, 50, 52, 54 and 56.

4. The polypeptide of claim 1, wherein the amino acid sequence of said variant comprises a conservative amino acid substitution.
5. An isolated nucleic acid molecule comprising a nucleic acid sequence encoding a polypeptide comprising an amino acid sequence selected from the group consisting of:
- 5 (a) a mature form of an amino acid sequence selected from the group consisting of SEQ ID NO:2, 4, 6, 8, 10, 12, 14, 16, 18, 41, 43, 45, 47, 49, 51, 53, 55 and 57;
- (b) a variant of a mature form of an amino acid sequence selected from the group consisting of SEQ ID NO: 2, 4, 6, 8, 10, 12, 14, 16, 18, 41, 43, 45, 47, 49, 51, 53, 55 and 57 wherein one or more amino acid residues in said variant differs from the amino acid sequence of said mature form, provided that said variant differs in no more than 15% of the amino acid residues from the amino acid sequence of said mature form;
- 10 (c) an amino acid sequence selected from the group consisting of SEQ ID NO:2, 4, 6, 8, 10, 12, 14, 16, 18, 41, 43, 45, 47, 49, 51, 53, 55 and 57;
- (d) a variant of an amino acid sequence selected from the group consisting of SEQ ID NO:2, 4, 6, 8, 10, 12, 14, 16, 18, 41, 43, 45, 47, 49, 51, 53, 55 and 57 wherein one or more amino acid residues in said variant differs from the amino acid sequence of said mature form, provided that said variant differs in no more than 15% of amino acid residues from said amino acid sequence;
- 15 (e) a nucleic acid fragment encoding at least a portion of a polypeptide comprising an amino acid sequence chosen from the group consisting of SEQ ID NO:2, 4, 6, 8, 10, 12, 14, 16, 18, 41, 43, 45, 47, 49, 51, 53, 55 and 57 or a variant of said polypeptide, wherein one or more amino acid residues in said variant differs from the amino acid sequence of said mature form, provided that said variant differs in no more than 15% of amino acid residues from said amino acid sequence; and
- 20 (f) a nucleic acid molecule comprising the complement of (a), (b), (c), (d) or (e).
6. The nucleic acid molecule of claim 5, wherein the nucleic acid molecule comprises the nucleotide sequence of a naturally-occurring allelic nucleic acid variant.
7. The nucleic acid molecule of claim 5, wherein the nucleic acid molecule encodes a polypeptide comprising the amino acid sequence of a naturally-occurring polypeptide variant.
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8. The nucleic acid molecule of claim 5, wherein the nucleic acid molecule differs by a single nucleotide from a nucleic acid sequence selected from the group consisting of SEQ ID NO:1, 3, 5, 7, 9, 11, 13, 15, 17, 40, 42, 44, 46, 48, 50, 52, 54 and 56.
- 5 9. The nucleic acid molecule of claim 5, wherein said nucleic acid molecule comprises a nucleotide sequence selected from the group consisting of
  - (a) a nucleotide sequence selected from the group consisting of SEQ ID NO:1, 3, 5, 7, 9, 11, 13, 15, 17, 40, 42, 44, 46, 48, 50, 52, 54 and 56;
  - (b) a nucleotide sequence differing by one or more nucleotides from a nucleotide sequence selected from the group consisting of SEQ ID NO:1, 3, 5, 7, 9, 11, 13, 15, 17, 10 40, 42, 44, 46, 48, 50, 52, 54 and 56 provided that no more than 20% of the nucleotides differ from said nucleotide sequence;
  - (c) a nucleic acid fragment of (a); and
  - (d) a nucleic acid fragment of (b).
10. The nucleic acid molecule of claim 5, wherein said nucleic acid molecule hybridizes 15 under stringent conditions to a nucleotide sequence chosen from the group consisting of SEQ ID NO:1, 3, 5, 7, 9, 11, 13, 15, 17, 40, 42, 44, 46, 48, 50, 52, 54 and 56 or a complement of said nucleotide sequence.
11. The nucleic acid molecule of claim 5, wherein the nucleic acid molecule comprises a nucleotide sequence selected from the group consisting of
  - 20 (a) a first nucleotide sequence comprising a coding sequence differing by one or more nucleotide sequences from a coding sequence encoding said amino acid sequence, provided that no more than 20% of the nucleotides in the coding sequence in said first nucleotide sequence differ from said coding sequence;
  - (b) an isolated second polynucleotide that is a complement of the first 25 polynucleotide; and
  - (c) a nucleic acid fragment of (a) or (b).
12. A vector comprising the nucleic acid molecule of claim 11.
13. The vector of claim 12, further comprising a promoter operably-linked to said nucleic acid molecule.
- 30 14. A cell comprising the vector of claim 12.

15. An antibody that immunospecifically-binds to the polypeptide of claim 1.
16. The antibody of claim 15, wherein said antibody is a monoclonal antibody.
17. The antibody of claim 15, wherein the antibody is a humanized antibody.
18. A method for determining the presence or amount of the polypeptide of claim 1 in a  
5 sample, the method comprising:  
    (a) providing the sample;  
    (b) contacting the sample with an antibody that binds immunospecifically to  
the polypeptide; and  
    (c) determining the presence or amount of antibody bound to said  
10 polypeptide,  
        thereby determining the presence or amount of polypeptide in said sample.
19. A method for determining the presence or amount of the nucleic acid molecule of claim 5  
in a sample, the method comprising:  
    (a) providing the sample;  
15      (b) contacting the sample with a probe that binds to said nucleic acid  
molecule; and  
    (c) determining the presence or amount of the probe bound to said nucleic  
acid molecule,  
        thereby determining the presence or amount of the nucleic acid molecule in said  
20 sample.
20. A method of identifying an agent that binds to a polypeptide of claim 1, the method  
comprising:  
    (a) contacting said polypeptide with said agent; and  
    (b) determining whether said agent binds to said polypeptide.
21. A method for identifying an agent that modulates the expression or activity of the  
25 polypeptide of claim 1, the method comprising:  
    (a) providing a cell expressing said polypeptide;  
    (b) contacting the cell with said agent; and  
    (c) determining whether the agent modulates expression or activity of said  
30 polypeptide,

whereby an alteration in expression or activity of said peptide indicates said agent modulates expression or activity of said polypeptide.

22. A method for modulating the activity of the polypeptide of claim 1, the method comprising contacting a cell sample expressing the polypeptide of said claim with a compound that binds to said polypeptide in an amount sufficient to modulate the activity of the polypeptide.
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23. A method of treating or preventing a SECP-associated disorder, said method comprising administering to a subject in which such treatment or prevention is desired the polypeptide of claim 1 in an amount sufficient to treat or prevent said SECP-associated disorder in said subject.
- 5 24. The method of claim 23, wherein said subject is a human.
25. A method of treating or preventing a SECP-associated disorder, said method comprising administering to a subject in which such treatment or prevention is desired the nucleic acid of claim 5 in an amount sufficient to treat or prevent said SECP-associated disorder in said subject.
- 10 26. The method of claim 25, wherein said subject is a human.
27. A method of treating or preventing a SECP-associated disorder, said method comprising administering to a subject in which such treatment or prevention is desired the antibody of claim 15 in an amount sufficient to treat or prevent said SECP-associated disorder in said subject.
- 15 28. The method of claim 15, wherein the subject is a human.
29. A pharmaceutical composition comprising the polypeptide of claim 1 and a pharmaceutically-acceptable carrier.
30. A pharmaceutical composition comprising the nucleic acid molecule of claim 5 and a pharmaceutically-acceptable carrier.
- 20 31. A pharmaceutical composition comprising the antibody of claim 15 and a pharmaceutically-acceptable carrier.
32. A kit comprising in one or more containers, the pharmaceutical composition of claim 29.
33. A kit comprising in one or more containers, the pharmaceutical composition of claim 30.
34. A kit comprising in one or more containers, the pharmaceutical composition of claim 31.

35. The use of a therapeutic in the manufacture of a medicament for treating a syndrome associated with a human disease, the disease selected from a SECP-associated disorder, wherein said therapeutic is selected from the group consisting of a SECP polypeptide, a SECP nucleic acid, and a SECP antibody.
- 5 36. A method for screening for a modulator of activity or of latency or predisposition to a SECP-associated disorder, said method comprising:
- (a) administering a test compound to a test animal at increased risk for a SECP-associated disorder, wherein said test animal recombinantly expresses the polypeptide of claim 1;
  - (b) measuring the activity of said polypeptide in said test animal after administering
  - 10 the compound of step (a);
  - (c) comparing the activity of said protein in said test animal with the activity of said polypeptide in a control animal not administered said polypeptide, wherein a change in the activity of said polypeptide in said test animal relative to said control animal indicates the test compound is a modulator of latency or predisposition to a SECP-associated disorder.
- 15 37. The method of claim 36, wherein said test animal is a recombinant test animal that expresses a test protein transgene or expresses said transgene under the control of a promoter at an increased level relative to a wild-type test animal, and wherein said promoter is not the native gene promoter of said transgene.
38. A method for determining the presence of or predisposition to a disease associated with
- 20 altered levels of the polypeptide of claim 1 in a first mammalian subject, the method comprising:
- (a) measuring the level of expression of the polypeptide in a sample from the first mammalian subject; and
  - (b) comparing the amount of said polypeptide in the sample of step (a) to the amount of the polypeptide present in a control sample from a second mammalian subject known not to
  - 25 have, or not to be predisposed to, said disease,
- wherein an alteration in the expression level of the polypeptide in the first subject as compared to the control sample indicates the presence of or predisposition to said disease.
39. A method for determining the presence of or predisposition to a disease associated with altered levels of the nucleic acid molecule of claim 5 in a first mammalian subject, the method
- 30 comprising:

(a) measuring the amount of the nucleic acid in a sample from the first mammalian subject; and

(b) comparing the amount of said nucleic acid in the sample of step (a) to the amount of the nucleic acid present in a control sample from a second mammalian subject known not to have or not be predisposed to, the disease;  
5 wherein an alteration in the level of the nucleic acid in the first subject as compared to the control sample indicates the presence of or predisposition to the disease.

40. A method of treating a pathological state in a mammal, the method comprising administering to the mammal a polypeptide in an amount that is sufficient to alleviate the  
10 pathological state, wherein the polypeptide is a polypeptide having an amino acid sequence at least 95% identical to a polypeptide comprising an amino acid sequence of at least one of SEQ ID NO:2, 4, 6, 8, 10, 12, 14, 16, and 18, or a biologically active fragment thereof.

41. A method of treating a pathological state in a mammal, the method comprising administering to the mammal the antibody of claim 15 in an amount sufficient to alleviate the  
15 pathological state.



# **POLYPEPTIDES AND POLYNUCLEOTIDES ENCODING SAME**

## **ABSTRACT**

The invention provides polypeptides, designated herein as SECP polypeptides, as well as polynucleotides encoding SECP polypeptides, and antibodies that immunospecifically- bind to SECP polypeptide or polynucleotide, or derivatives, variants, mutants, or fragments thereof. The invention additionally provides methods in which the SECP polypeptide, polynucleotide, and antibody are used in the detection, prevention, and treatment of a broad range of pathological states.

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## Drawings

**Figure 15. Nucleotide Sequence for CG106318-01.**

>CG106318-01 4810 nt  
GTCCATGGGGCCGATGTATGGGAGATGAATGTGGTCCCGGAGGCATCCAAACGAGGGCTG  
TGTGGTGTGCTCATGTGGAGGGATGGAACACTGACATACTAACTGTAAGCAGGCCGAGA  
GACCCAATAACCAGCAGAATTGTTTCAAAGTTTGGCATTGGCACAAGAGTTGTACGACT  
GGAGACTGGGACCTTGAATCAGTGTGAGCCCGTGATTCAAAAAGCCTAGAGAAACCTC  
TTGAGTGCATTAAGGGGGAAGAAGGTATTGAGGTGAGGGAGATAGCGTGCATCCAGAAAG  
ACAAAGACATTCTGCGGAGGATATCATCTGTGAGTACTTTGAGCCCAAGCCTCTCCTGG  
AGCAGGCTTGCCTCATTCTTGCAGCAAGATTGCATCGTGTCTGAATTTCTGCCTGGT  
CCGAATGCTCCAAGACCTGCGGAGCGGGCTCCAGCACCGGACGCGTGCATGTGGTGGCGC  
CCCCGCAAGTTCGGAGGCTCTGGCTGTCCAAACCTGACGGAGTTCCAGGTGTGCCAATCCA  
GTCCATGCGAGGCCGAGGAGCTCAGGTACAGCCTGCATGTGGGGCCCTGGAGCACCTGCT  
CAATGCCCACTCCCGACAAAGTAAGACAGCAAGGAGACGCGGGAAGAATAAAGAAACGGG  
AAAAGGACCGCAGCAAGGAGTAAAGGATCCAGAAGCCCGGAGCTTATTAAGAAAAAGA  
GAAACAGAAACAGGACAGCAAGAGAGAACAATATTGGGACATCCAGATTGGATATC  
AGACCAGAGAGGTTATGTGCATTAACAAGACGGGGAAAGCTGCTGATTTAAGCTTTTGGC  
AGCAAGAGAAGCTTCAATGACCTTCCAGTCTGTGTGATACCAAAGAGTGGCAGGTTT  
CCGAGTGGTCAGAGTGGAGCCCTGCTCAAAAACATGCCATGACATGGTGTCCCCTGCAG  
GCACTCGTGTAAAGACACGAACCATCAGGCAGTTTCCCATTTGGCAGTGAAGAGGAGTGT  
CAGAATTTGAAGAAAAAGAACCCCTGTTGTCTCAAGGAGATGGAGTTGTCCCCTGTGCCA  
CGTATGGCTGGAGAACTACAGAGTGGACTGAGTGCCGTGTGGACCCCTTGTCTCAGTCAGC  
AGGACAAGAGGCGCGCAACCAGACGGCCCTCTGTGGAGGGGGCATCCAGACCCGAGAGG  
TGTAATGCGTGCAGGCCAACGAAAACCTCCTCTCACAATTAAGTACCCACAAGAACAAG  
AAGCCTCAAAGCCAATGGACTTAAATATGCACTGGACCTATCCCTAATACTACACAGC  
TGTGCCAATTCCTTGTCCAACCTGAATGTGAAGTTTACCTTGGTCAGCTTGGGGACCTT  
GTACTTATGAAAACCTGTAATGATCAGCAAGGGAAAAAGGCTTCAAACCTGAGGAAGCGGC  
GCATTACCAATGAGCCCACTGGAGGCTCTGGGGTAACCGAAACTGCCCTCACTTACTGG  
AAGCCATTCCCTGTGAAGAGCCTGCCTGTTATGACTGGAAGCGGTGAGACTGGGAGACT  
GCGAGCCAGATAACGGAAAGGAGTGTGGTCCAGGCACGCAAGTTCAAGAGGTTGTGTGCA  
TCAACAGTGTGAGAGAAGAAGTTGACAGACAGCTGTGCAGAGATGCCATCTTCCCCATCC  
CTGTGGCCTGTGATGCCCCATGCCCCGAAAGACTGTGTGCTCAGCAGATGGTCTACGTGGT  
CCTCCTGCTCACACACCTGCTCAGGGAAAACGACAGAAGGGAAACAGATACGAGCACGAT  
CCATTCTGGCCCTATGCGGGTGAAGAAGGTGGAATTCGCTGTCCAATAGCAGTGTCTTGC  
AAGAAGTACGAAGCTGTAATGAGCATCCTTGCACAGTGTACCACTGGCAAACCTGGTCCCT  
GGGGCCAGTGCATTGAGGACACCTCAGTATCGTCTTCAACACAACTACGACTTGAAGT  
GGGAGGCCCTCCTGCTGTGCGCATGCAGACAAGAAAGTCATCTGTGTGCGAGTCAATG  
TGGGCCAAGTGGGACCCAAAAAATGTCTGAAAGCCTTCGACCTGAAACTGTAAGGCCTT  
GTCTGCTTCCCTGTGAAGAAGGACTGTATTGTGACCCCATATAGTGAAGTGGACATCATGCC  
CCTCTTCTGTAAAGAAGGGGACTCCAGTATCAGGAAGCAGTCTAGGCATCGGGTCATCA  
TTCAAGCTGACGCCAACCGGGGGCCGAGACTGCACAGATCCCTCTATGAAGAGAAGGCCT  
GTGAGGCACCTCAAGCGTGCCAAAGCTACAGGTGGAAGACTCACAATGGCGCAGATGCC  
AATTAGTCCCTTGGAGCGTGAACAAGACAGCCCTGGAGCACAGGAAGGCTGTGGGCGCTG  
GGCGACAGGCAAGAGCCATTACTTGTGCAAGCAAGATGGAGGACAGGCTGGAATCCATG  
AGTGCCACAGTATGCAGGCCCTGTGCCAGCCCTTACCCAGGCCCTGCCAGATCCCTGCC  
AGGATGACTGTCAATTGACCAGCTGGTCCAAGTTTCTTCATGCAATGGAGACTGTGGTG  
CAGTTAGGACCAGAAAGCGCACTCTTGTGGAAAAAGTAAAAAGAAGGAAAAATGTAAAA  
ATTCCCATTGTATCCCTGATTGAGACTCAGTATTGTCTTGTGACAAATATAATGCAC  
AACCTGTGGGGAACCTGGTCAGACTGTATTTACCAGAGGGAAAAAGTGAAGTGTGCTGG  
GAATGAAAGTACAAGGAGACATCAAGGAATGCGGACAAGGATATCGTTACCAAGCAATGG  
CATGCTACGATCAAATGGCAGGCTTGTGGAAACATCTAGATGTAAACAGCCATGGTTACA  
TTGAGGAGGCCCTGCATCATCCCCCTGCCCTCAGACTGCAAGCTCAGTGAGTGGTCCAAC  
GGTCGCGCTGCAGCAAGTCTGTGGGAGTGGTGTGAAGTTCTGTTCTAAATGGCTGCGTG  
AAAAACCATATAATGGAGGAAGGCCCTTGGCCCAACTGGACCATGTCAACAGGCACAGG  
TGTATGAGGTTGTCCCATGCCACAGTGAAGTGAACCACTATGGGTGCAGAGGCCCT  
GGAGCATCTGCAAGGTGACCTTTTGAATATGCGGGAGAACTGTGGAGAGGGCGTGCAAA  
CCCGAAAAGTGAGATGCATGCAGAATACAGCAGATGGCCCTTCTGAACATGTAGAGGATT  
ACCTCTGTGACCCAGAAGAGATGCCCTGGGCTCTAGAGTGTGCAAAATACCATGCCCTG  
AGGACTGTGTGATATCTGAATGGGGTCCATGGACCAATGTGTTTGGCTTGAATCAA  
GCAGTTTCCGGCAAGGTGAGCTGATCCCATCAGACAACAGCTGATGAAGGAAGATCTT  
GCCCTAATGCTGTTGAGAAAGAACCCTGTAACCTGAACAAAAACTGCTACCACTATGATT  
ATAATGTAACAGACTGGAGTACATGTCAGCTGAGTGAGAAGGCAGTTTGTGGAATGGAA  
TAAAAACAAGATGTGGATTGTGTTGCAAGTGTGCAAGTCAAGTTGACCTGAAATATT  
GTGAAGCGCTTGGCTTGGAGAAGAACTGGCAGATGAACACGTCCTGCATGGTGAATGCC  
CTGTGAAGTGTGAGCTTTCTGATTGGTCTCCTTGGTCAGAATGTTCTCAACATGTGGCC

TCACAGGAAAAATGATCCGAAGACGAACAGTGACCCAGCCCTTTCAAGGTGATGGAAGAC  
CATGCCCTTCCCTGATGGACCAAGTCCAAACCCTGCCAGTGAAGCCTTGTTATCGGTGGC  
AATATGGCCAGTGGTCTCCATGCCAAGTGCAGGAGGCCAGTGTGGAGAAGGGACCAGAA  
CAAGGAACATTTCTTGTTAGTAAGTGATGGGTGAGTGTGATTTTCAAGTGGTGG  
ATGAGGAATTCTGTGCTGACATTGAACTCATTATAGATGGTAATAAAAAATATGGTTCTGG  
AGGAATCCTGCAGCCAGCCTTGCCAGGTGACTGTTATTTGAAGGACTGGTCTTCTGGA  
GCCTGTGTGAGCTGACCTGTGTGAATGGTGAGGATCTAGGCTTTGGTGGAATACAGGTCA  
GATCCAGACCCGGTGATTATACAAGAACTAGAGAATCAGCATCTGTGCCAGAGCAGATGT  
TAGAAACAAAATCATGTTATGATGGACAGTGTATGAATATAAATGGATGGCCAGTGCCT  
GGAAGGGCTCTTCCGAACAGTGTGGTGTCAAAGGTGAGTGGTATAAATGTAACAGGGG  
GCTGCTTGGTGATGAGCCAGCCTGATGCCGACAGGTCTTGTAAACCCACCGTGTAGTCAAC  
CCCCTCTGACTGTAGCGAGACAAAAACATGCCATTGTGAAGAAGGGTACACTGAAGTCA  
TGTCTTCTAACAGCACCTTGAGCAATGCACACTTATCCCCGTGGTGGTATTACCCACCA  
TGGAGGACAAAAGAGGAGATGTGAAAACCAAGTCGGGCTGTACATCCAACCCAACCTCCA  
GTAACCCAGCAGGACGGGGAAGGACCTGGTTTCTACAGCCATTGGGCCAGATGGGAGAC  
TAAAGACCTGGGTTTACGGGTGTAGCAGCTGGGGCATTGTGTTACTCATCTTTATTGTCT  
CCATGATTTATCTAGCTTGTAAAAAGCCAAAGAAACCCCAAGGAAGGCAAAACAACCGAC  
TGAACCTTTAACCTTAGCCTATGATGGAGATGCCGACATGTAACATATAACTTTTCTG  
GCAACAACCA (SEQ ID NO: 40)

Protein Sequence for CG106318-01 ORF Start: 18 ORF Stop: 4782 Frame: 3

Protein Sequence:

>CG106318-01-prot 1588 aa  
MGDECGPGGIQTRAVVCAHVEGWTTLHTNCKQAERPNNQNCQFKVCDWHKELYDWRLGPW  
NQCQPVISKSLKPLECIKGEIGQVREIACIQKDKDIPAEDIICEYFEPKPLLEQACLI  
PCQQDCIVSEFSAWSECSKTCGSLQHRTRHVAPPQFGGSGCPNLTEFQVCQSSPCEAE  
ELRYSLSLVGPWSTCSMPHSRQVRQARRRGKNKEREDRSKGVKDPPEARLIKKNRNRQ  
NRQENKYWDIQIGYTREVCMINKTGKAADLSFCQQEKLPMTFQSCVITKECQVSEWSEW  
SPCSKTCMDMVSPAGTRVTRTIRQFPIGSEKECFEKEPCLSQGDGVVPCATYGWRT  
TEWTECRVDPLLSQDQKRRNQALCGGGIQTREYVCVQANENLLSQLSTHKNKEASKPM  
DLKLCTGPIPNNTQLCHIPCTECEVSPWSAWGPCTYENCNDQQGKKGFKLRKRITNEP  
TGGSGVTGNCPHLEAIPCEEPACYDWKAVRLGDCEPDNGKECGPGTQVQEVVCINSOGE  
EVDRLQLCRDAIFPIVACDAPCPKDCVLSTWSTWSSCSHTCSGKTTGKQIRARSILAYA  
GEEGGIRCPNSSLQEVRSNEHPCTVYHWQTGPWGQCIEDTSVSSFNTTTTWNGEASCS  
VGMQTRKVICVRVNVGQVGPKKCPESLRPETVRPCLLPCKKDCIVTPYSDWTSCPSSCKE  
GDSSIRKQSRHRVLIQLPANGGRDCTDPLYEEKACEAPQACQSYRWKTHKWRRCLVPWS  
VQQDSPGAQEGCGPGRQARAITCRKQDGGQAGIHECLQYAGPVPALQACQIPQDDCQL  
TSWSKFSSCNGDCGAVRTRKRTLVGKSKKKECKNSHLYLIETQYCPCDKYNAQPVGNW  
SDCILPEGKVEVLLGMKVQDQIECGQGYRYQAMACYDQNGRLVETSRCSHGYIEEACI  
IPCPSDCKLSEWSNWSRCSKSCGSGVKVRSKWLREKPYNGGRPCPKLDHVNQAQVYEVVP  
CHSDCNQYLWVTEPWSICKVTFVNMRENCGEVQTRKVRQMNTADGPSEHVEDYLCDPE  
EMPLGSRVCKLPCPEDCVISEWGPWTQCVLPCNQSSFRQRSADPIRQPADEGRSCPNAVE  
KEPCNLNKNKYHYDYNVTDWSTCQLSEKAVCGNGIKTRMLDCVRSKGKSVDLKYCEALGL  
EKNWQMNTSCMVECPVNCQLSDWSPWSECSQTCGLTGKMIARRRTVQPFQGDGRPCPSLM  
DQSKPCPVKPCYRWQYQWSPCQVQEAQCGEGTRTRNISCVSVDGSADDFSKVVDDEEFA  
DIELIIDGNKNMVLSESCSQPCPGDCYLKDWSSWSLQCLTCVNGEDLFGGGIQRVSRPVI  
IQELENOHLCPQMLETKSCYDGCYQYKWMASAWKGSSRTVWCQRSDGINVTGGCLVMS  
QPDADRSCNPPCSQPHSYCSETKTCHCEEYETVMSSNSTLEQCTLIPVVVLPMTMEDKRG  
DVKTSRAVHPTQPSSNPAGRGRTWFLQPFPGDGRKLTWVYGVAAAGFVLLIFVSMIYLA  
CKKPKPKQRRQNNRLKPLTLAYDGDADM (SEQ ID NO: 41)

5 Figure 16. Nucleotide and Protein Sequences for CG50817-04.

>CG50817-04 1447 nt  
 GCGGACACCAGTGATGCTCCTGGGACCCTACGCAATCTGCGCCTGCGTCTCATCAGTCGC  
 CCCACATGTAAGTGTATCTACAACCAGCTGCACCAGCGACACCTGTCCAACCCGGCCCGG  
 CCTGGGATGCTATGTGGGGGCCCCAGCCTGGGGTGCAGGGCCCCTGTCAGGTCTGATAG  
 GGAGAAGAGAAGGAGCAGAAGGGGAGGGGCCTAACCTGGGCTGGGGGTTGGAATCACAG  
 GACTGGGGGAAAGAGCTGCAATCAGAGGGTGTCTGCCATAGCTGGGCTCAGGCATCTGTC  
 CTTGGCTTTGTTGCCTGGCTCCAGGGAGATTCCGGGGGCCCTGTGCTGTGCCTCGAGCCT  
 GACGGACACTGGGTTTCAAGCTGGCATCATCAGCTTTGCATCAAGCTGTGCCAGGAGGAC  
 GCTCCTGTGCTGCTGACCAACACAGCTGCTCACAGTTCCTGGCTGCAGGCTCGAGTTCAG  
 GGGGCAGCTTTCTGGCCCAGAGCCCAGAGACCCCGAGATGAGTGATGAGGACAGCTGT  
 GTAGCCTGTGGATCCTTGAGGACAGCAGGTCCCCAGGCAGGAGCACCTCCCCATGGCCC  
 TGGGAGGCCAGGCTGATGCACCAGGGACAGCTGGCCTGTGGCGAGCCCTGGTGTGAGAG  
 GAGGCGGTGCTAACTGCTGCCCAGTCTTATTGGGCGCCAGGCCCCAGAGGAATGGAGC  
 GTAGGGCTGGGGACAGACCGGAGGAGTGGGGCCTGAAGCAGCTCATCCTGCATGGAGCC  
 TACACCCACCCTGAGGGGGGCTACGACATGGCCCTCCTGCTGCTGGCCAGCCTGTGACA  
 CTGGGAGCCAGCCTGCGGCCCTCTGCCTGCCCTATGCTGACCACCACCTGCCTGATGGG  
 GAGCGTGGCTGGGTTCTGGGACGGGCCCCGCCAGGAGCAGGCATCAGCTCCCTCCAGACA  
 GTGCCCGTGACCTCCTGGGGCCTAGGGCCTGCAGCCGGCTGCATGCAGCTCCTGGGGGT  
 GATGGCAGCCCTATTCTGCCGGGGATGGTGTGTACCAGTGCTGTGGGTGAGCTGCCAGC  
 TGTGAGGCCAACCAACCAGCTGCTGACAGGGGACCTGGCCATTCTCAGGAACAAGAGAAT  
 GCAGGCAGGCAAAATGGCATTACTGCCCCTGTCTCCCCACCCTGTCATGTGTGATTCCAG  
 GCACCAGGGCAGGCCAGAGCCAGCAGCTGTGGGAAGGAACCTGCCTGGGGCCACAGG  
 TGCCCACTCCCCACCCTGCAGGACAGGGGTGTCTGTGGACACTCCACACCCAACTCTGC  
 TACCAAGCAGGCGTCTCAGCTTTCCTCCTCTTACCCTTCAGATACAATCACGCCAGC  
 CACGTTGTTTTGAAAAATTTCTTTTTTGGGGGGCAGCAGTTTTCTTTTTTAAACTTAA  
 ATAAATT (SEQ ID NO:42)

**Protein Sequence for CG50817-04 ORF Start: 520 ORF Stop: 1192 Frame: 1**

Protein Sequence:

>CG50817-04-prot 224 aa  
 MSDEDSVCAGSLRTAGPQAGAPSPWPWEARLMHQQLACGGALVSEEAVLTAHCFIGR  
 QAPEEWSVLGTRPEEWGLKQLILHGAYTHPEGGYDMALLLLAQPVTLGASLRPLCLPYA  
 DHHLDPGERGWVLGRARPGAGISSLQTPVTLGPRACSRHLAAPGGDGPILPGMVCTS  
 AVGELPSCEANQPAADRPGHSGEQENAGROMALLPLSSPPCHV (SEQ ID NO:43)

**Figure 17. Nucleotide and Protein Sequences for CG50817-05.**

**5 . Nucleotide sequence encoding the Peptidase-like protein of the invention.**

>CG50817-05  
 CGCTGGGCCTCTGTCCTGATGCTGCTGAGCTCCCTGGTGTCTCTCGCTGGTTCTGTCTAC 60  
 CTGGCCTGGATCCTGTTCTTCGTGCTCTATGATTTCTGCATTGTTTGTATCACCACCTAT 120  
 GCTATCAACGTGAGCCTGATGTGGCTCAGTTTCCGGAAGGTCCAAGAACCCAGGGCCAA 180  
 10 CCCAAGCCTCAGGAGGGCAACACAGTCCCTGGCGAGTGGCCCTGGCAGGCCAGTGTGAGG 240  
 AGGCAAGGAGGCCACATCTGCAGCGGCTCCCTGGTGGCAGACACCTGGGTCTCACTGCT 300  
 GCCCAGTGTCTTTGAAAAGGCAGCAGCAACAGAACTGAATTCCTGCGTGAGGGACTCAGCC 360  
 CCTGGGGCCGAAGAGGTGGGGGTGGCTGCCCTGCAGTTGCCAGGGCCTATAACCACTAC 420  
 AGCCAGGGCTCAGACCTGGCCCTGCTGCAGCTCGCCACCCACGACCCACACACCCCTC 480  
 15 TGCCTGCCCCAGCCCCGCCATCGCTTCCCCCTTTGGAGCCTCCTGCTGGGCCACTGGCTGG 540  
 GATCAGGACACCAGTGATGCTCCTGGGACCCTACGCAATCTGCGCCTGCGTCTCATCAGT 600  
 CGCCCCACATGTAAGTGTATCTACAACCAGCTGCACCAGCGACACCTGTCCAACCCGGCC 660

CGGCCTGGGATGCTATGTGGGGGCCCCAGCCTGGGGTGCAGGGCCCCTGTCAGGGAGAT 720  
 TCCGGGGGCCCTGTGCTGTGCCTCGAGCCTGACGGACACTGGGTTTCAAGCTGGCATCATC 780  
 AGCTTTGCATCAAGCTGTGCCCAGGAGGACGCTCCTGTGCTGCTGACCAACACAGCTGCT 840  
 CACAGTTCCTGGCTGCAGGCTCGAGTTCAGGGGGCAGCTTTCCTGGCCCAGAGCCCAGAG 900  
 5 ACCCCGGAGATGAGTGATGAGGACAGCTGTGTAGCCTGTGGATCCTTGAGGACAGCAGGT 960  
 CCCCAGGCAGGAGCACCTCCCCATGGCCCTGGGAGGCCAGGCTGATGCACCAGGGACAG 1020  
 CTGGCCTGTGGCGGAGCCCTGGTGTGAGAGGAGGCGGTGCTAACTGCTGCCCACTGCTTC 1080  
 ATTGGGCGCCAGGCCCCAGAGGAATGGAGCGTAGGGCTGGGGACCAGACCGGAGGAGTGG 1140  
 GGCCTGAAGCAGCTCATCCTGCATGGAGCCTACACCCACCCTGAGGGGGGCTACGACATG 1200  
 10 GCCCTCCTGCTGCTGGCCCAGCCTGTGACACTGGGAGCCAGCCTGCGGCCCTCTGCCTG 1260  
 CCCTATGCTGACCACCACCTGCCTGATGGGGAGCCTGGCTGGGTTCTGGGACGGGCCCCG 1320  
 CCAGGAGCAGGCATCAGTCCCTCCAGACAGTGCCCGTGACCCTCCTGGGGCCTAGGGCC 1380  
 TGCAGCCGGCTGCATGCAGCTCCTGGGGGTGATGGCAGCCCTATTCTGCCGGGGATGGTG 1440  
 TGTACCAGTGCTGTGGGTGAGCTGCCAGCTGTGAGGCCAACCAACCAGCTGCTGACAGG 1500  
 15 GGACCTGGCCATTCTCAGGAACAAGAGAATGCAGGCAGGCAAATGGCATTACTGCCCTG 1560  
 TCCTCCCCACCCTGTCATGTGTGATTCCAGGC 1592  
 (SEQ ID NO:44)

**Protein sequence encoded by the coding sequence shown above.**

>CG50817-05  
 20 MLLSSLVSLAGSVYLAWILFFVLYDFCIVCITTYAINVSLMWLSFRKVQEPQGQPKPQEG 60  
 NTVPGIEWPWQASVRRQGAHICSGSLVADTWVLTAAHCFEKAATELNQSVRDSAPGAEEV 120  
 GVAALQLPRAYNHYSQSDLLALLQLAHPTTHTPLCLPQPAHRFPFGASCWATGWDQDTS 180  
 APGTLRLNLRRLISRPTCNCIYNQLHQRHLSNPARPGMLCGGPQPGVQGPCQDSSGGPVL 240  
 25 CLEPDGHWVQAGIISFASSCAQEDAPVLLTNTAAHSSWLQARVQGAFLAQSPETPEMSD 300  
 EDSCVACGSLRTAGPQAGAPSPWPWEARLMHQGLACGGALVSEAVLTAHCFIGROAP 360  
 EEWSVGLGTRPEEWGLKQLILHGAYTHPEGGYDMALLLAQPVTLGASLRPLCLPYADHH 420  
 LPDGERGWVLGRARPGAGISSLQTVPTLLGPRACSRHLHAAPGGDGPILPGMVCTSAVG 480  
 ELPSCEANQPAADRGPGHSGEQENAGRQMALLPLSSPPCHV 521  
 (SEQ ID NO:45)

**Figure 18. Nucleotide and Protein Sequences for CG50817-06.**

**Nucleotide sequence encoding the Peptidase-like protein of the invention.**

>CG50817-06  
 AGCGACACCTGTCCAACCCGGCCCGGCCTGGGATGCTATGTGGGGGCCCCAGCCTGGGG 60  
 TGCAGGGCCCCTGTCAGGGAGATTCCGGGGGCCCTGTGCTGTGCCTCGAGCCTGACGGAC 120  
 35 ACTGGGTTCAAGCTGGCATCATCAGCTTTGCATCAAGCTGTGCCCAGGAGGACGCTCCTG 180  
 TGCTGCTGACCAACACAGCTGCTCACAGTTCCTGGCTGCAGGCTCGAGTTCAGGGGGCAG 240  
 CTTTCCTGGCCCAGAGCCCAGAGACCCCGGAGATGAGTGATGAGGACAGCTGTGTAGCCT 300  
 GTGGATCCTTGAGGACAGCAGGTCCCGAGGAGGAGACCCTCCCCATGGCCCTGGGAGG 360  
 CCAGGCTGATGCACCAAGGACAGCTGGCCTGTGGCGGAGCCCTGGTGTGAGGAGGCGG 420  
 40 TGCTAACTGCTGCCCACTGCTTCATTGGGCGCCAGGCCCCAGAGGAATGGAGCGTAGGGC 480  
 TGGGGACCAGACCGGAGGAGTGGGGCCTGAAGCAGCTCATCCTGCATGGAGCCTACACCC 540  
 ACCCTGAGGGGGGCTACGACATGGCCCTCCTGCTGCTGGCCCAGCCTGTGACACTGGGAG 600  
 CCAGCCTGCGGGCCCCTCTGCCTGCCCTATGCTGACCACCACCTGCCTGATGGGGAGCGTG 660  
 GCTGGGTTCTGGGACGGGGCCCCAGGAGCAGGCATCAGCTCCCTCCAGACAGTGCCCG 720  
 45 TGACCCTCCTGGGGCCTAGGGCCTGCAGCCGGCTGCATGCAGCTCCTGGGGGTGATGGCA 780  
 GCCCTATTCTGCCGGGGATGGTGTGTACCAGTGCTGTGGGTGAGCTGCCAGCTGTGAGG 840  
 CCAACCAACCAGCTGCTGACAGGGGACCTGGCCATTCTCAGGAACAAGAGAATGCAGGCA 900  
 GGCAAATGGCATTACTGCCCTGTCTCTCCCAACCTGTCTGTGTGATTCCAGGCACCA 960  
 50 GGAGGCCCCAGAGCCAGCAGCTGTGGGCAAGCAACCTGCCTGGGGCCACAGGTGCCAC 1020  
 TCCCAACCTGCAGGACAGGGGTGTCTGTGGACACTCCACACCCAACTCTGCTACCAAG 1080  
 CAGGCGTCTCAGCTTTCCTCCTCTTACCTTTTTCAGATACAATCACGCCAGCCACGTTG 1140  
 TTTTGAATAATTTCTTTTTTGGGGGGCAGCAGTTTTCTTTTTTAACTTAAATAAATT 1200  
 (SEQ ID NO:46)

**Protein sequence encoded by the coding sequence shown above.**

55 >CG50817-06  
 MLCGGPQPGVQGPCQDSSGGPVLCLPDGHWVQAGIISFASSCAQEDAPVLLTNTAAHSS 60  
 WLQARVQGAFLAQSPETPEMSDEDSVACGSLRTAGPQAGAPSPWPWEARLMHQGLAC 120

GGALVSEEAVLTAAHCFIGRQAPEEWSVGLGTRPEEWGLKQLILHGAYTHPEGGYDMALL 180  
 LLAQPVTLGASLRPLCLPYADHHLDPDGERGWVLGRARPGAGISSLQTVPVTLGPRACSR 240  
 LHAAPGGDGSPIPLGMVCTSAVGELPSCEANQPAADRGPGRHSQEENAGROMALLPLSSP 300  
 PCHV 304  
 (SEQ ID NO:47)

**Figure 19. Nucleotide and Protein Sequences For CG51099-03.**

**Nucleotide sequence encoding the Serine Protease-like protein of the invention.**

>CG51099-03  
 10 CCGAGAGACGCAGTCGGCTGCCACCCCGGGATGGGTCGCTGGTGCCAGACCGTCGCGCGC 60  
 GGGCAGCGCCCCCGACGTCTGCCCCCTCCCGCGCCGGTGCCCTGCTGCTGCTGCTTCTG 120  
 TTGCTGAGGTCTGCAGGTGCTGGGGCGCAGGGGAAGCCCCGGGGGCGCTGTCCACTGCT 180  
 GATCCCGCCGACACAGAGCGTCCAGTGTGTCCCAAGGCCACCTGTCTTCCAGCCGGCCT 240  
 CGCCTTCTCTGGCAGACCCCGACCCAGACACTGCCCTCGACCACCATGGAGACCCAA 300  
 15 TTCCCAAGTTTCTGAAGGCAAAGTCCGACCCATACCGCTCCTGTGGCTTTTCTACGAGCAG 360  
 GACCCACCCCTCAGGGACCCAGAAGCCGTGGCTCGGCGGTGGCCCTGGATGGTCAGCGTG 420  
 CGGGCCAATGGCACACACATCTGTGCGGCACCATCATTGCCTCCAGTGGGTGCTGACT 480  
 GTGGCCCACTGCCTGATCTGGCGTGATGTTATCTACTCAGTGAGGGTGGGGAGTCCGTGG 540  
 ATTGACCAGATGACGCAGACCGCTCCGATGTCCCGGTGCTCCAGGTCATCATGCATAGC 600  
 20 AGGTACCGGGCCAGCGGTTCTGGTCTGGGTGGGCCAGGCCAACGACATCGGCCTCCTC 660  
 AAGCTCAAGCAGGAACCTCAAGTACAGCAATTACGTGCGGCCCATCTGCCTGCCTGGCAGC 720  
 GACTATGTGTTGAAGGACCATTCGCGCTGCACTGTGACGGGCTGGGGACTTTCCAAGGCT 780  
 GACGGCATGTGGCCTCAGTTCGCGACCATTCAGGAGAAGGAAGTCATCATCCTGAACAAC 840  
 AAAGAGTGTGACAATTTCTACCACAACCTTACCAAAATCCCCACTCTGGTTTCAGATCATC 900  
 25 AAGTCCAGATGATGTGTGCGGAGGACACCCACAGGGAGAAGTTCTGCTATGAGCTAACT 960  
 GGAGAGCCCTTGGTCTGCTCCATGGAGGGCACGTGGTACCTGGTGGGATTGGTGAGCTGG 1020  
 GGTGACGGCTGCCAGAAGAGCGAGGCCCCACCCATCTACCTACAGGTCTCCTCCTACCAA 1080  
 CACTGGATCTGGGACTGCCTCAACGGGCAGGCCCTGGCCCTGCCAGCCCCATCCAGGACC 1140  
 CTGCTCCTGGCACTCCCACTGCCCTCAGCCTCCTTGCTGCCCTCTGACTCTGTGTGCCC 1200  
 30 TCCCTCACTTGTGA 1214  
 (SEQ ID NO:48)

**Protein sequence encoded by the nucleotide sequence shown above.**

>CG51099-03  
 35 MGRWCQTVARGQRPRTSAPSRAGALLLLLLLLRSAGCWGAGEAPGALSTADPADQSVQCV 60  
 PKATCPSSRPRLWQTPTTQTLPTTMTQFPVSEGVDPYRSCGFSYEQDPTLRDPEAV 120  
 ARRWPMVSVRWANGTHICAGTIIASQWVLTVAHCLWRDVIYSVRVGSPPWIDQMTQTASD 180  
 VPVLQVIMHSRYRAQRFWSWVGQANDIGLLKLKQELKYSNYVRPICLPDGYVLKDH SRC 240  
 TVTGWGLSKADGMWPQFRTIQEKEVILNNKECDNFYHNFTKIPTLVQIIKSQMMCAEDT 300  
 40 HREKFCYELTGEPLVCSMEGTWYLVGLVSWGAGCQKSEAPPIYLQVSSYQHWIWDCLNGQ 360  
 ALALPAPSRLLLLALPLPLSLLAAL 385 (SEQ ID NO:49)

**Figure 20. Nucleotide and Protein Sequences For CG57051-04.**

**Nucleotide sequence encoding the Angiopoietin-like protein, CG57051-04.**

>CG57051-04  
 45 TGCGGATCCTCACACGACTGTGATCCGATTCTTTCCAGCGGCTTCTGCAACCAAGCGGGT 60  
 CTTACCCCGGCTCCTCCGCGTCTCCAGTCTCGCACCTGGAACCCCAACGTCCCCGAGAG 120  
 TCCCGGAATCCCGCTCCAGGCTACCTAAGAGGATGAGCGGTGCTCCGACGGCCGGGGC 180  
 AGCCCTGATGCTCTGCGCCGCCACCGCGTGCTACTGAGCGCTAGATCTGGACCCGTGCA 240  
 50 GTCCAAGTCGCCGCGCTTTGCGTCCTGGGACGAGATGAATGTCCTGGCGCACGGACTCCT 300  
 GCAGCTCGGCCAGGGGCTGCGCGAACACGCGGAGCGCACCCGAGTCAGCTGAGCGCGCT 360

GGAGCGGCGCCTGAGCGCGTGCGGGTCCGCCTGTCAGGGAACCGAGGGGTCCACCGACCT 420  
 CCCGTTAGCCCCTGAGAGCCGGGTGGACCCTGAGGTCCTTCACAGCCTGCAGACACAACCT 480  
 CAAGGCTCAGAACAGCAGGATCCAGCAACTCTTCCACAAGGTGGCCCAGCAGCAGCGGCA 540  
 5 CCTGGAGAAGCAGCACCTGCGAATTCAGCATCTGCAAAGCCAGTTTGGCCTCCTGGACCA 600  
 CAAGCACCTAGACCATGAGGTGGCCAAGCCTGCCGAAGAAAGAGGCTGCCCAGATGGC 660  
 CCAGCCAGTTGACCCGGCTCACAAATGTCAGCCGCTGCACCGAGGCTGGTGGTTTGGCAC 720  
 CTGCAGCCATTCCAACCTCAACGGCCAGTACTTCCGCTCCATCCCACAGCAGCGGCAGAA 780  
 GCTTAAGAAGGGAATCTTCTGGAAGACCTGGCGGGGCGCTACTACCCGCTGCAGGCCAC 840  
 10 CACCATGTTGATCCAGCCCATGGCAGCAGAGGCAGCCTCCTAGCGTCCTGGCTGGGCCTG 900  
GTCCCAGGCCACGAAAGACGGTGACTCTTGGCTCTG 937 (SEQ ID NO:50)

**Protein sequence encoded by the nucleotide sequence shown above.**

>CG57051-04  
 MSGAPTAGAALMLCAATAVLLSARSGPVQSKSPRFASWDEMNVLAHGLLQGLREHAE 60  
 15 RTRSQLSALERRLSACGSACQGTGEGSTDLPLAPESRVDPEVLHSLQTQLKAQNSRIQQLF 120  
 HKVAQQQRHLEKQHLRIQHLQSQFGLLDHKHLDHEVAKPARRKRLPEMAQPVDPAHNVSR 180  
 LHRGWVFGTCSHNSNLNGQYFRSIPQQRQKLKKGIFWKTWRGRYYPLOATTMLIQPMAAEA 240  
 AS 242 (SEQ ID NO:51)

## Figure 21. Nucleotide and Protein Sequences For CG57051-05.

Nucleotide sequence encoding the Angiopoietin-like protein, CG57051-05.

>CG57051-05  
 CTTGCTCTCCAGTCTCGCACCTGGAACCCCAACGTCCTCCGAGAGTCCCGGAATCCCGC 60  
 25 TCCCAGGCTACCTAAGAGGATGAGCGGCGCTCCGACGGCCGGGCGAGCCTGATGCTCTG 120  
 CGCCGCCACCGCGTGCTACTGAGCGCTCAGGGCGGACCCGTGCAGTCCAAGTCGCCGCG 180  
 CTTTGGCTCCTGGGACGAGATGAATGTCTGGCGCACGGACTCCTGCAGCTCGGCCAGGG 240  
 GCTGCGCGAACACGCGGAGCGCACCCGAGTCAGCTGAGCGCGCTGGAGCGGCGCCTGAG 300  
 CGCGTGCGGGTCCGCGCTGTCAGGGAACCGAGGGGTCCACCGACTCCCGTTAGCCCTGA 360  
 GAGCCGGGTGGACCTGAGGTCTTACAGCCTGCAGACACAACCTCAAGGCTCAGAACAG 420  
 30 CAGGATCCAGCAACTCTTCCACAAGGTGGCCAGCAGCAGCGGCACCTGGAGAAGCAGCA 480  
 CCTGCGAATTCAGCATCTGCAAAGCCAGTTTGGCCTCCTGGACCACAAGCACCTAGACCA 540  
 TGAGGGTGGCAAGCCTGCCGAAGAAAGAGGCTGCCGAGATGGCCAGCCAGTTGACCC 600  
 GGCTCACAAATGTGAGCGCCTGCACCATGGAGGCTGGACAGTAATTCAGAGGCGCCACGA 660  
 TGCTCAGTGGACTTCAACCGGCCCTGGGAAGCCTACAAGCGGGGTTTGGGGATCCCA 720  
 35 CGGCGAGTTCTGGCTGGGTCTGGAGAAGGTGCATAGCATCATGGGGGACCGCAACAGCCG 780  
 CCTGGCCGTCAGCTGCGGGACTGGGATGGCAACGCGAGTTGCTGCAGTTCTCCGTGCA 840  
 CCTGGGTGGCGAGGACACGGCCTATAGCCTGCAGTCACTGCACCCGTGGCCGGCCAGCT 900  
 GGGCGCCACCACCGTCCCACCCAGCGGCCCTCTCCGTACCTTCTCCACTTGGGACCAGGA 960  
 TCACGACCTCCGAGGACAAGAAGTGCAGGCTTCTGGAGGCTGGTGGTTTGG 1020  
 40 CACCTGCAGCCATTCCAACCTCAACGGCCAGTACTTCCGCTCCATCCCACAGCAGCGGCA 1080  
 GAAGCTTAAGAAGGGAATCTTCTGGAAGACCTGGCGGGGCGCTACTACCCGCTGCAGGC 1140  
 CACCACCATGTTGATCCAGCCCATGGCAGCAGAGGCAGCCTCCTAGCGTCCTGGCTGGGC 1200  
CTGGTCCCAGGCCACGAAAGAGGTGACTCTTGGCTCTG 1239 (SEQ ID NO:52)

Protein sequence for Angiopoietin-like protein, CG57051-05.

45 >CG57051-05  
 MSGAPTAGAALMLCAATAVLLSAQGGPVQSKSPRFASWDEMNVLAHGLLQGLREHAE 60  
 RTRSQLSALERRLSACGSACQGTGEGSTDLPLAPESRVDPEVLHSLQTQLKAQNSRIQQLF 120  
 50 HKVAQQQRHLEKQHLRIQHLQSQFGLLDHKHLDHEGGKPARRKRLPEMAQPVDPAHNVSR 180  
 LHHGGWTVIQRHDGSDVFNRPWEAYKAGFGDPHGEFVLGLEKVSIMGDRNSRLAVQLR 240  
 DWDGNAELLQFSVHLGGEDTAYSLQLTAPVAGQLGATTVPSPGLSVPFSTWDQDHLRRD 300  
 KNCAKSLSGGWVFGTCSHNSNLNGQYFRSIPQQRQKLKKGIFWKTWRGRYYPLOATTMLIQ 360  
 PMAAEAS 368 (SEQ ID NO:53)

## Figure 22. Nucleotide and Protein Sequences For CG57051-02.

55 Nucleotide sequence encoding the Angiopoietin-like protein of the invention.

>CG57051\_02  
 TGGCGATCCTCACAGACTGTGATCCGATTCTTTCCAGCGGCTTCTGCAACCAAGCGGGT 60  
 CTTACCCCCGGTCTCCGCGTCTCCAGTCTCCGACCTGGAACCCCAACGTCCCCGAGAG 120  
 TCCCCGAATCCCCGCTCCAGGCTACCTAAGAGGATGAGCGGTGCTCCGACGGCCGGGC 180  
 5 AGCCCTGATGCTCTGCGCCGCCACCGCGTGCTACTGAGCGCTAGATCTGGACCCGTGCA 240  
 GTCCAAGTCGCGCGCTTTGCGTCTGGGACGAGATGAATGTCTGGCGCACGGACTCCT 300  
 GCAGCTCGGCCAGGGGCTGCGCGAACACGCGGAGCGCACCCGAGTCAGCTGAGCGCGCT 360  
 GGAGCGGCGCTGAGCGCTGCGGGTCCGCTGTGTCAGGGAACCGAGGGGTCCACCGACCT 420  
 CCGGTTAGCCCTGAGAGCGGGTGGACCTGAGGTCTTACAGCCTGCAGACACAACCT 480  
 10 CAAGGCTCAGAACAGCAGGATCCAGCAACTCTTCCACAAGGTGGCCAGCAGCAGCGCA 540  
 CCTGGAGAAGCAGCACCTGCCAATTGAGCATCTGCAAGCCAGTTTGGCTCTCTGGACCA 600  
 CAAGCACCTAGACCATGAGGTGGCCAAACCTGCCCCAAGAAAGAGGCTGCCCGAGATGGC 660  
 CCAGCCAGTTGACCCGGCTCACAATGTGACCGCGCTGCACCATGGAGGCTGGACAGTAAT 720  
 TCAGAGGCGCCACGATGGCTCAATGGACTTCAACCGGCCCTGGGAAGCCTACAAGCGGG 780  
 15 GTTTGGGGATCCCCACGGCGAGTTCTGGGTGGGTCTGGAGAAGGTGCATAGCATACGGG 840  
 GGACCGCAACAGCCGCTGGCCGTGACGTGCGGGACTGGGATGGCAACGCCGAGTTGCT 900  
 GCAGTTCTCCGTGCACCTGGGTGGCGAGGACACGGCTATAGCTGCAGCTCACTGCACC 960  
 CGTGGCCGGCCAGCTGGGCGCCACCACCTCCCAACCGCGGCTCTCCGTACCCCTCTC 1020  
 CACTTGGGACCAGGATCAGACCTCCGACGGGACAAGAACTGCGCCAAGAGCCTCTCTGC 1080  
 20 CCCATCGGTGGCTCAAAGACCTGACCATGTTCCCTCTCCCTGACCCCGGCAGGAGGTG 1140  
 GTGGTTTGGCACCTGCAGCAATTCCAACCTCAACGCCAGTACTTCCGCTCCATCCACA 1200  
 GCAGCGGCAGAAGCTTAAGAAGGGAATCTTCTGGAAGACCTGGCGGGGCGCTACTACCC 1260  
 GCTGCAGGCCACCACCATGTTGATCCAGCCCATGGCAGCAGAGGCAGCTCCTAG 1315  
 (SEQ ID NO: 54)

## 25 Protein sequence for CG57051-02.

>CG57051\_02  
 MSGAPTAGAALMLCAATAVLLSARSGPVQSKSPRFASWDEMNVLAHGLLQLQGGLREHAE 60  
 RTRSQLSALERRLSACGSACQGTGEGSTDLPLAPESRVDPEVLHSLQTQLKAQNSRIQQLF 120  
 HKVAQQQRHLEKQHLRIQHLQSQFGLLDHKHLDHEVAKPARRKRLPEMAQPVDPAHNVSR 180  
 30 LHHGGWTVIQRHDGSMDFNRPEWAYKAGFGDPHGEFWLGLKVVHSITGDRNSRLAVQLR 240  
 DWGNAELLQFSVHLGGEDTAYSLQLTAPVAGQLGATTVPVPSGLSVFSTWQDHDLLRRD 300  
 KNCAKSLSPASVQRPDHPVPLTPAGGWVFGTCSHSLNNGQYFRSIPQQRQKLKKGIFW 360  
 KTWGRYYPQLATMLIQPMAAEAS 386 (SEQ ID NO: 55)

## 35 Figure 23. Nucleotide and Protein Sequences For CG57051-03.

Nucleotide sequence encoding the Angiopoietin-like protein, CG57051-03.

>CG57051-03  
 CCCCAGAGTCCCCGAATCCCCGCTCCAGGCTACCTAAGAGGATGAGCGGTGCTCCGAC 60  
 40 GGCCGGGGCAGCCCTGATGCTCTGCGCCGCCACCGCGTGCTACTGAGCGCTCAGGGCGG 120  
 ACCCGTGACGTCCAAGTCGCGCGCTTTGCGTCTGGGACGAGATGAATGTCTGGCGCA 180  
 CGGACTCTGACAGCTCGGCCAGGGGCTGCGCGAACACGCGGAGCGCACCCGAGTCAGCT 240  
 GAGCGCGCTGGAGCGCGCTGAGCGCTGCGGGTCCGCTGTGTCAGGGAACCGAGGGGTC 300  
 CACCGACCTCCCGTTAGCCCTGAGAGCCGGGTGGACCTGAGGTCTTACAGCCTGCA 360  
 45 GACACAACTCAAGGCTCAGAACAGCAGGATCCAGCAACTCTTCCACAAGGTGGCCAGCA 420  
 GCAGCGGCACCTGGAGAAGCAGCACCTGCGAATTGAGCATCTGCAAGCCAGTTTGGCCT 480  
 CCTGGACCACAAGCACCTAGACCATGAGGTGGCCAAGCCTGCCCCAAGAAAGAGGCTGCC 540  
 CGAGATGGCCAGCCAGTTGACCCGGCTCACAATGTGACCGCCTGCACCATGGAGGCTG 600  
 GACAGTAATTGAGAGCGCCACGATGGCTCAGTGGACTTCAACCGGCCCTGGGAAGCCTA 660  
 50 CAAGCGGGGTTTGGGGATCCCCACGGCGAGTTCTGGCTGGGTCTGGAGAAGGTCCATAG 720  
 CATCACGGGGGACCGCAACAGCCGCTGGCCGTGACGTGCGGGACTGGGATGACAACGC 780  
 CGAGTTGCTGACGTTCTCCGTGCACCTGGGTGGCGAGGACACGGCCTATAGCTGACGCT 840  
 CACTGCACCCGTGGCGGCCAGCTGGGCGCCACCACCGTCCCAACCGAGCGGCTCTCCGT 900  
 ACCCTTCCCCACTTGGGACCAGGATCAGACCTCCGACGGACAAGAACTGCGCCAAGAG 960  
 55 CCTCTCTGGAGCTGGTGGTTTGGCACCTGCAGCCATTCCAACCTCAACGGCCAGTACTT 1020  
 CCGCTCCATCCCCACAGCAGCGCGCAGAAGCTTAAGAAGGGAATCTTCTGGAAGACCTGGCG 1080  
 GGGCCGCTACTACCCGCTGCAGGCCACCACCATGTTGATCCAGCCCATGGCAGCAGAGGC 1140  
 AGCCTCCTAG 1150 (SEQ ID NO: 56)

## 60 Protein sequence for CG57051-03.



5 >CG57051-03  
 MSGAPTAGAALMLCAATAVLLSAQGGPVQSKSPRFASWDEMNVLAHGLLQLGQGLREHAE 60  
 RTRSQLSALERRLSACGSACQGTGSTDLPLAPESRVDPEVLHSLQTQLKAQNSRIQQLF 120  
 HKVAQQQRHLEKQHLRIQHLQSOFGLLDHKHLDHEVAKPARRKRLPEMAQPVDPAHNVSR 180  
 LHHGGWTVIQRHDGSDFNRPWEAYKAGFGDPHGEFWLGLEKVHSITGDRNSRLAVQLR 240  
 DWDDNAELLQFSVHLGGEDTAYSLQLTAPVAGQLGATTVPVPSGLSVFPPTWDQDHLRRD 300  
 KNCAKSLSGGWFGTCSHSNLNGQYFRSIPQQRQKLKKGIFWKTWRGRYYPLQATTMLIQ 360  
 PMAAEAAS 368 (SEQ ID NO:57)

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TRA 1677606v1